CLAIMS:

1.   A transmission system for transmitting datawords via a multicarrier signal (11) from a transmitter (10) to a receiver (12), the transmitter (10) comprising a generator (20) for generating for each dataword (19) a number of alternative sequences (21), and the transmitter (10) further comprising a selector (22) for selecting the alternative sequence with the lowest

5   peak power value (23) for transmission to the receiver (12), characterized in that the generator (20) is embodied so as to combine mutually different digital words with the dataword (19) in order to form the alternative sequences (21).

2.   A transmission system according to Claim 1, characterized in that the generator

10   (20) comprises an augmentor (40) for generating for each dataword (19) a number of intermediate sequences (41) by combining the digital words with the dataword (19), the generator (20) further comprising a scrambler (42) for scrambling the intermediate sequences (41) in order to form the alternative sequences (21).

15   3.   A transmission system according to Claim 2, characterized in that the augmentor (40) is embodied so as to generate for each dataword (19) 2^r intermediate sequences (41) by combining all possible digital words of length r with the dataword (19).

4.   A transmission system according to Claim 1, characterized in that the generator

20   (20) comprises a splitter (60) for splitting the dataword (19) and the digital words into fragments (61), the generator (20) further comprising a combiner (62) for combining the fragments (61) in order to form the alternative sequences (21).

5.   A transmission system according to ~~any one of Claims 1 to 4~~, characterized in

25   that the selector (22) comprises an Inverse Discrete Fourier Transformer (50) for calculating for each alternative sequence the Inverse Discrete Fourier Transform (IDFT), the selector (22) further comprising means (52) for determining for each alternative sequence the maximum of the calculated IDFT values (51), the selector (22) also comprising means (54) for selecting the alternative sequence with the lowest maximum (23) for transmission to the receiver (12).

6.   A transmitter (10) for transmitting datawords via a multicarrier signal (11) to a receiver (12), the transmitter (10) comprising a generator (20) for generating for each dataword (19) a number of alternative sequences (21), and the transmitter (10) further comprising a selector (22) for selecting the alternative sequence with the lowest peak power value (23) for transmission to the receiver (12), characterized in that the generator (20) is embodied so as to combine mutually different digital words with the dataword (19) in order to form the alternative sequences (21).

7.   A transmitter according to Claim 6, characterized in that the generator (20) comprises an augmentor (40) for generating for each dataword (19) a number of intermediate sequences (41) by combining the digital words with the dataword (19), the generator (20) further comprising a scrambler (42) for scrambling the intermediate sequences (41) in order to form the alternative sequences (21).

8.   A transmitter according to Claim 7, characterized in that the augmentor (40) is embodied so as to generate for each dataword (19) 2^r intermediate sequences (41) by combining all possible digital words of length r with the dataword (19).

9.   A transmitter according to Claim 6, characterized in that the generator (20) comprises a splitter (60) for splitting the dataword (19) and the digital words into fragments (61), the generator (20) further comprising a combiner (62) for combining the fragments (61) in order to form the alternative sequences (21).

10.   A transmitter according to claim 6 ~~any one of Claims 6 to 9~~, characterized in that the selector (22) comprises an Inverse Discrete Fourier Transformer (50) for calculating for each alternative sequence the Inverse Discrete Fourier Transform (IDFT), the selector (22) further comprising means (52) for determining for each alternative sequence the maximum of the calculated IDFT values (51), the selector (22) also comprising means (54) for selecting the alternative sequence with the lowest maximum (23) for transmission to the receiver (12).

11.   A method of transmitting datawords via a multicarrier signal (11) from a transmitter (10) to a receiver (12) comprising the steps of:
- generating for each dataword (19) a number of alternative sequences (21),

- selecting the alternative sequence with the lowest peak power value (23) for transmission to the receiver (12),

characterized in that the step of generating the alternative sequences comprises the step of:

- combining mutually different digital words with the dataword (19) in order to form the

5   alternative sequences (21).

12.   A method of transmitting datawords via a multicarrier signal (11) according to Claim 11, characterized in that the step of generating the alternative sequences comprises the steps of:

10   - generating for each dataword (19) a number of intermediate sequences (41) by combining mutually different digital words with the dataword (19),

- scrambling the intermediate sequences (41) in order to form the alternative sequences (21).

13.   A method of transmitting datawords via a multicarrier signal (11) according to

15   Claim 12, characterized in that for each dataword (19) 2^r intermediate sequences (41) are generated by combining all possible digital words of length r with the dataword (19).

14.   A method of transmitting datawords via a multicarrier signal (11) according to Claim 11, characterized in that the step of generating the alternative sequences comprises the

20   steps of:

- splitting the dataword (19) and the digital words into fragments (61),

- combining the fragments (61) in order to form the alternative sequences (21).

15.   A method of transmitting datawords via a multicarrier signal (11) according to
        Claim 11
25   ~~any one of Claims 11 to 14~~, characterized in that the step of selecting the alternative sequence with the lowest peak power value (23) comprises the steps of:

- calculating for each alternative sequence the Inverse Discrete Fourier Transform (IDFT),

- determining for each alternative sequence the maximum of the calculated IDFT values (51),

- selecting the alternative sequence with the lowest maximum (23) for transmission to the

30   receiver (12).